

AD-A033 476 CONSTRUCTION ENGINEERING RESEARCH LAB (ARMY) CHAMPAI--ETC F/G 13/2
MILITARY CONSTRUCTION CONTRACT MANAGEMENT. RECOMMENDATIONS FOR --ETC(U)
NOV 76 R L FOSTER

UNCLASSIFIED

CERL-TR-P-76

NL

1 OF 1
AD
A033476

END

DATE
FILMED
2-77

D. S.

**construction
engineering
research
laboratory**

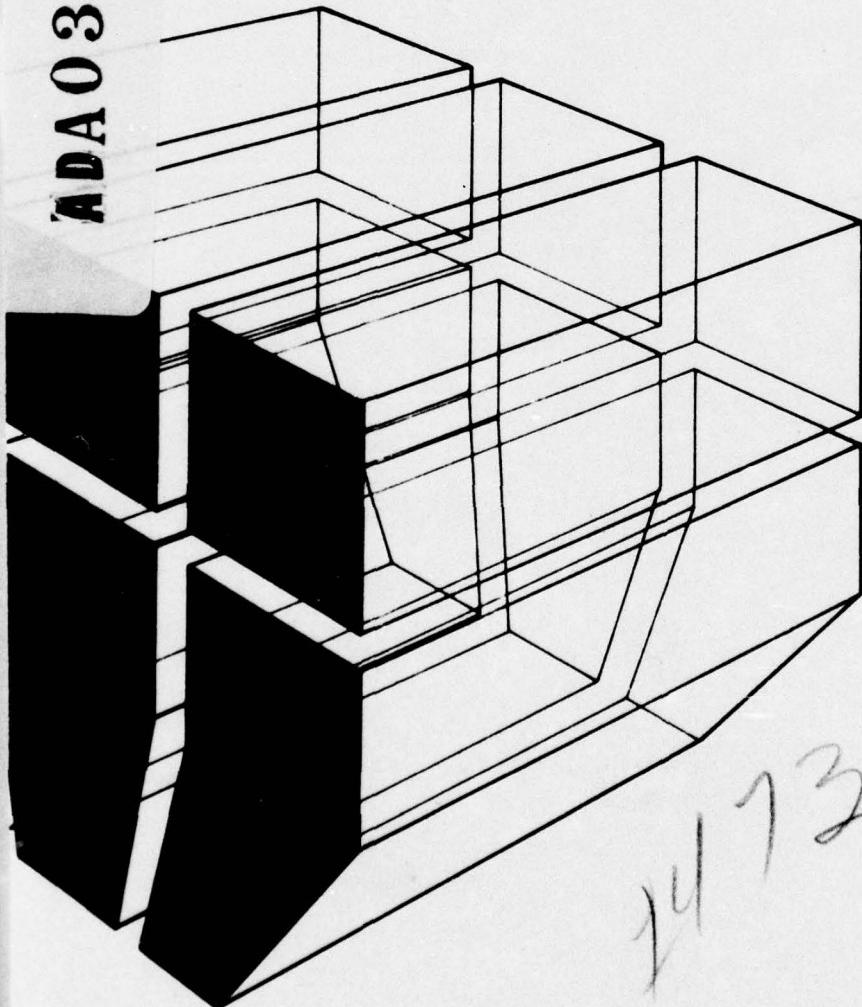
TECHNICAL REPORT P-76

November 1976

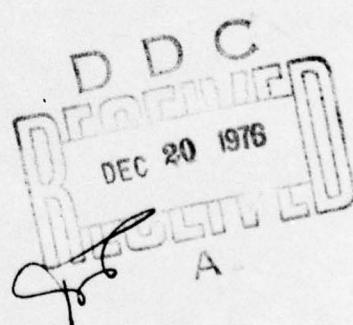
**Recommendations for Improved Military Construction
Contract Management Procedures**

ADAO33476

MILITARY CONSTRUCTION CONTRACT MANAGEMENT



by
Ronald L. Foster



The contents of this report are not to be used for advertising, publication, or promotional purposes. Citation of trade names does not constitute an official indorsement or approval of the use of such commercial products. The findings of this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

**DESTROY THIS REPORT WHEN IT IS NO LONGER NEEDED
DO NOT RETURN IT TO THE ORIGINATOR**

REPORT DOCUMENTATION PAGE			READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER TECHNICAL REPORT P-76	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle) MILITARY CONSTRUCTION CONTRACT MANAGEMENT. Recommendations for Improved Military Construction Contract Management Procedures		5. TYPE OF REPORT & PERIOD COVERED FINAL <i>rept. to</i>	
7. AUTHOR(s) R. L. Foster <i>Ronald L. Foster</i>		6. PERFORMING ORG. REPORT NUMBER	
9. PERFORMING ORGANIZATION NAME AND ADDRESS CONSTRUCTION ENGINEERING RESEARCH LABORATORY P.O. Box 4005 Champaign, Illinois 61820		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 4K0728012A40K	
11. CONTROLLING OFFICE NAME AND ADDRESS		12. REPORT DATE Nov 1976	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) <i>1216 P.</i>		13. NUMBER OF PAGES 14	
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited		15. SECURITY CLASS. (of this report) UNCLASSIFIED	
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE	
18. SUPPLEMENTARY NOTES Copies are obtainable from National Technical Information Service, Springfield, VA 22151			
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) contract management claims processing contract modification			
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report summarizes recommendations for improved Corps of Engineers construction contract management policies and procedures for the activities of modifications and claims processing, contractor submittals administration, and construction contract progress determination and reporting. The major product of this research was a proposed Engineer Pamphlet 415-1-2, <i>Modifications and Claims Guide</i> . Other recommendations proposed: (1) changes to certain modifications and claims requirements of the Engineer Contract Instructions (ER 1180-1-1); (2) a revised ER 415-1-10, <i>Contractor Submittals</i> ; <i>-- Modifications</i>			

~~UNCLASSIFIED~~

~~SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)~~

and (3) guidance for standardized calculation of reported construction contract progress values.

This report also summarizes the considerations and methodology involved in the development of these recommendations.

A

2

~~UNCLASSIFIED~~

~~SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)~~

FOREWORD

This research was conducted for the Directorate of Military Construction, Office of the Chief of Engineers (OCE), under Project 4K0-728012A40K1, "Improved Military Construction Contract Management (MCCM) Procedures."

The OCE Technical Monitor during the major portion of this study was Mr. P. J. Van Parys. The OCE Technical Monitor during the final stages of the study was Mr. Frank W. Parker.

The work was performed by the Management Systems Branch (Dr. Omar E. Rood, Jr., Chief), Facilities Acquisition and Construction Division (Mr. Edward A. Lotz, Chief), Construction Engineering Research Laboratory (CERL), Champaign, Illinois. The Principal Investigator for this study was Mr. Ronald L. Foster.

Appreciation is expressed to Mr. Lee B. Benson, Associate Investigator, who provided the vast majority of the CERL research which resulted in the recommendations regarding improved contractor submittals policies and procedures; and to Mr. Bruce A. Berson, Mr. Victor W. Hughes, and Ms. Charlotte Rubinstein, graduate research assistants from the University of Illinois at Champaign-Urbana, for their assistance in conducting this research.

The cooperation and contributions of the Corps of Engineers personnel who work in CONUS division, district, and field offices have been fundamental to the success of this research and are sincerely appreciated. The efforts of personnel of the South Pacific Division and its districts contributed significantly to the contractor submittals research. Mr. Edward W. Crabtree, Jr., and his staff in Mobile District deserve special thanks for their support in writing the first draft of certain portions of the Modifications and Claims Guide.

COL J. E. Hays is Commander and Director of CERL and Dr. L. R. Shaffer is Technical Director.

APPROVAL BY	
NAME	GRADE
BY _____ DEPARTMENT/AVAILABILITY CODES SOL. SELL. MFG. MFG.	
	

CONTENTS

DD FORM 1473	1
FOREWORD	3
1 INTRODUCTION	5
Background	
Purpose of Report	
Objectives of Study	
Scope	
Approach	
2 MODIFICATIONS AND CLAIMS PROCESSING.	8
Problem Definition	
Approach	
Results	
3 CONTRACTOR SUBMITTALS ADMINISTRATION	11
Problem Definition	
Approach	
Results	
4 PROGRESS DETERMINATION AND REPORTING	13
Problem Definition	
Approach	
Results	
5 CONCLUSIONS AND RECOMMENDATIONS.	14
Conclusions	
Recommendations	

DISTRIBUTION

MILITARY CONSTRUCTION CONTRACT MANAGEMENT

1 INTRODUCTION

Background

To be most productive in executing its worldwide responsibilities for military construction, the Corps of Engineers must use cost-effective construction contract management procedures. Cost-effective contract management entails the efficient conduct of activities related to modifications and claims, contractor submittals, and contract progress determination and reporting.

Present Corps of Engineers policies and procedures, as defined by engineer regulations and other guidance, can be improved regarding these three activities. Policies and procedures employed on military construction contracts are not consistent throughout the Corps of Engineers, varying among Corps divisions, among districts within the same division, and even among field offices within the same district. Yet all of these offices at all organizational levels are operating within what they believe to be proper interpretations of the applicable regulations.

Purpose of Report

This report provides a brief summary of the conduct and results of the study to develop improved contract management procedures, presenting an overview of the investigation and the recommended improvements produced for the three activities under study.

Objectives of Study

The objectives of this study were

1. To investigate Corps of Engineers contract management procedures
2. To identify areas needing improvement
3. To recommend improved procedures for the military construction contract management activities of modifications and claims processing,

contractor submittals* administration, and contract progress determination and reporting. The purpose of these recommendations was to initiate changes which would result in increased efficiency of Corps operations, more uniform compliance with applicable regulations, better use of resources, and a more unified approach to management of military construction contracts.

Scope

The recommended improvements developed as a result of this work fell into two basic categories:

1. Development of additional guidance within the existing regulations.
2. Development of recommended changes to the existing regulations.

Although this research was conducted specifically to improve *military* construction contract management, the recommended improvements are almost universally applicable to *civil works* construction contract management as well.

Approach

This research effort was conducted according to the following basic steps:

1. Definition of Areas Needing Improvement. An open-ended mail survey of Corps of Engineers district and field office personnel** was conducted to define areas needing improvement in the three aspects of contract management under study. These survey data provided the basis for later telephone surveys, personal interviews, and written correspondence, which served to further define problem areas.
2. Review of Existing Guidance. As a basis for evaluating problem areas and developing solutions, investigators conducted a thorough

*The term "contractor submittals" as used in this report refers to all shop drawings, samples, certificates, parts lists, guarantees, layouts, and other technical information that may be required to show compliance with the contract specifications.

**The districts surveyed were the CONUS districts performing military construction at that time (Baltimore, Fort Worth, Los Angeles, Mobile, New York, Omaha, Sacramento, and Savannah). Other references in this report to "districts" and "divisions" refer to these eight districts plus Kansas City and Norfolk and to Missouri River, North Atlantic, South Atlantic, South Pacific, and Southwestern Divisions.

review of applicable requirements of the Armed Services Procurement Regulation (ASPR), the Army Procurement Procedure (APP), the Engineer Contract Instructions (ECI), and all other applicable Corps of Engineers regulations and guidance. Regulations and contract documents requirements of nine districts were reviewed to determine how ASPR, APP, ECI, and other Corps regulations requirements were being interpreted and implemented for the three activities under study. In addition, literature from the private sector was reviewed for application to Corps operations.

3. Development of Recommended Solutions. Input from Corps division, district, and field office personnel was used in developing recommended solutions. These solutions were reviewed by Office of the Chief of Engineers (OCE) and districts and divisions participating in the study, prior to revision and preparation in final form.

2 MODIFICATIONS AND CLAIMS PROCESSING

Problem Definition

Based on information from the initial survey, a second survey was conducted to better define areas needing improvement in modifications and claims processing and to test possible solutions to certain problem areas already defined. The surveys, discussions with Corps contract management personnel, and a review of applicable district regulations defined four basic problem areas:

1. There is a lack of official guidance for processing contract modifications and claims.
2. Modifications and claims processing policies and procedures are not consistent throughout the Corps.
3. Certain applicable ASPR, APP, and ECI requirements are being interpreted and implemented differently by Corps division and district offices.
4. Certain ECI requirements require revision in order to provide for more effective processing of modifications and claims.

Approach

A logic diagram in the form of a flow chart was developed as an aid to understanding the modifications and claims process. This flow chart served as an aid to:

1. Understanding the process with respect to the precedence and interrelationships of the activities it comprises
2. Understanding and relating the ASPR, APP, and ECI regulations that control the process
3. Identifying and comparing the districts' different policies and procedures and recognizing the differing interpretations of the regulations
4. Evaluating possible solutions to needed improvements in the processing of modifications and claims.

Using the flow chart as an outline, a modifications and claims guide was drafted and provided to OCE, districts, and divisions for review. Review comments were incorporated into the final draft as appropriate.

Recommended changes to existing regulations were developed based on all needed improvements discovered in the course of the research effort.

Results

Products

Proposed Engineer Pamphlet 415-1-2, *Modifications and Claims Guide*, was the major product of this research effort. Also developed were recommended revisions to the Engineer Contract Instructions (ER 1180-1-1) concerning:

1. Use of a revised ENG Form 3938 for all contract change orders
2. Use of a revised ENG Form 3938B for findings of fact/record of negotiations for all change orders
3. Clarification of the Resident Contracting Officer's authority with respect to (a) authority to grant time extensions, (b) authority to issue notice to proceed before agreement, (c) authority to issue two-part change orders, and (d) authority to issue a change order unilaterally
4. Clarification of the definition of a two-part change order
5. Clarification of Board of Awards approval requirements
6. Definition of a formal claim.

Expected Impact

The proposed *Modifications and Claims Guide* is intended for use by districts and divisions as the basis for their guidance regarding the processing of modifications and claims to military and civil works construction contracts. Districts and divisions are expected to supplement the guide with additional details pertinent to their specific organizations. The guide could also be used as the text material for an OCE construction training course on modifications and claims to fixed-price construction contracts.

The proposed *Modifications and Claims Guide* will:

1. Provide a means for standardizing definitions of terms and interpretations of requirements as a basis for improved communications within the Corps
2. Provide a frame of reference for discussions regarding needed improvements in the processing of modifications and claims
3. Provide a system for recording and communicating accumulated Corps experience
4. Provide an excellent learning aid for inexperienced personnel.

Implementation of the recommended changes to modifications and claims requirements of ECI will contribute to:

1. A consistent Corps-wide modifications and claims processing policy
2. A consistent interpretation of ECI requirements by Corps division and district offices
3. More effective processing of modifications and claims to construction contracts.

3 CONTRACTOR SUBMITTALS ADMINISTRATION

Problem Definition

The initial survey revealed a need to better define Corps policy regarding contractor submittals. Review of the districts' regulations and contract documents identified a wide variation in policies and procedures regarding contractor submittals. Other research activities discovered conflicts among the requirements of the existing ER 415-1-10,¹ OCE guide specifications, and Corps philosophy regarding construction quality control.

Approach

A new ER 415-1-10 was prepared and then revised based on input from OCE, divisions, and districts.

Results

Product

A revised version of ER 415-1-10 was prepared that incorporates the following study recommendations on the major issues related to contractor submittals administration:

1. Corps "approval" of contractor submittals should be required only when it is absolutely necessary and will be the sole source of a contractor's information regarding a particular requirement. The approval should be clearly limited to the specific details being approved, leaving other responsibility with the contractor.
2. Information concerning any requirement which is clearly described in the plans or specifications but on which the Corps desires additional shop drawings or other detailed information, should be received as a "for the record" submittal. In this procedure the contractor is fulfilling a contract requirement for information and will receive no acknowledgement from the Corps. If an error is later found in this material, it *remains* the contractor's responsibility to comply with the specifications. The Corps' right to review or not review any information provided does not affect the contractor's responsibility under his contract.
3. In cases where a construction planning network is in use, for whatever reason, individual activities should be included for submittal

¹*Contractor Submittals (Shop Drawings and Materials)*, ER 415-1-10 (OCE, 16 July 1973).

(and review if required). The review duration (if required) should be "reasonable," and, for each submittal, should be determined by the Corps in cooperation with the contractor. The contractor retains the responsibility for overall scheduling or "need date" of approval as well as for the time necessary for the resubmittal and review of anything found not in compliance with the contract requirements.

The recommended revised ER 415-1-10 assumes important programs such as construction quality control will continue unchanged. Any variation in an important program's philosophy, or any adjustment to the recommended ER 415-1-10, must be carefully evaluated for impact on other recommendations and the entire construction contract management system.

Expected Impact

Inefficiency and confusion related to contract submittals can contribute to problems in other contract management areas and to frustration and confusion on the part of the personnel involved. All the issues discussed above contribute to delay, confusion, uncertainty, or errors--which ultimately translate into extra cost to the government. Yet the problems in the area of contractor submittals are solvable and the solutions and improvements are not complex. The modest effort required to clarify and improve the submittal/approval policy and procedures should be well worthwhile in terms of the positive effect on the entire construction management system.

4 PROGRESS DETERMINATION AND REPORTING

Problem Definition

The initial survey indicated a need to define a standard method for calculating reported construction contract progress values. Subsequent investigations confirmed that Corps districts use different methods for calculating contract progress values reported to OCE; these values are therefore not comparable on a Corps-wide basis.

Approach

The districts' regulations and contract documents requirements applicable to progress determination and reporting were reviewed to define the various methods employed for calculating contract progress. The methods used and those defined in the literature were evaluated for application to Corps of Engineers operations, and the most feasible method for Corps use was determined.

Results

Product

Recommendations for guidance that should be issued to standardize the calculation of reported construction contract progress values were submitted to OCE. This guidance would stipulate that:

1. Percentages will be based on dollars earned by the contractor divided by total dollars to be paid for the contract
2. The "dollars earned by the contractor" will include only those dollars earned for work in place and will not include dollars earned for unincorporated materials
3. The "total dollars to be paid for the contract" will represent the existing contract amount and will not include dollars for known pending contract modifications which have not been finalized.

Expected Impact

Implementation of these recommendations will have the important result of providing more accurate and comparable reported construction contract progress values for use by higher level management.

5 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study identified areas needing improvement in the military construction contract management activities of modifications and claims processing, contractor submittals administration, and contract progress determination and reporting.

Recommendations

Implementation of the following recommendations will result in increased efficiency of Corps operations, more uniform compliance with the applicable regulations, better use of resources, and a more unified Corps of Engineers approach to management of military construction contracts. Yet, divisions and districts will still be able to operate with their traditional amount of latitude.

1. Proposed Engineer Pamphlet 415-1-2, *Modifications and Claims Guide*, previously furnished to OCE, should be published and used Corps-wide as basic modifications and claims guidance. It should be improved over time to incorporate additional information based on the experience of knowledgeable Corps contract management personnel.
2. Recommended changes to certain modifications and claims requirements of the Engineer Contract Instructions (ER 1180-1-1) should be implemented.
3. A revised ER 415-1-10 should be issued.
4. Guidance to standardize the calculation of reported contract progress values should be issued.

Revised documentation, previously furnished to OCE for recommendations 2, 3, and 4 should be sent to divisions and districts for review, revised if necessary, and then issued as official Corps of Engineers guidance for construction contract management.

CERL DISTRIBUTION

Chief of Engineers
ATTN: DAEN-MCZ-S
ATTN: DAEN-ASI-L (2)
ATTN: DAEN-RDL
ATTN: DAEN-MCC-E/Mr. F. Parker
Dept of the Army
WASH DC 20314

Defense Documentation Center
ATTN: TCA (12)
Cameron Station
Alexandria, VA 22314